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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/555,921	06/06/2000	WOLFGANG KAUFHOLD	MO-5726/LEA	9638
7590 09/15/2004			EXAMINER	
BAYER CORPORATION 100 BAYER ROAD PITTSBURGH, PA 15205-9741			SERGENT, RABON A	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 09/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

S.C.

<b>Office Action Summary</b>	<b>Application No.</b> 09/555,921	<b>Applicant(s)</b> KAUFHOLD ET AL.	
	<b>Examiner</b> Rabon Sergeant	<b>Art Unit</b> 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 12-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 10, 2004 has been entered.

2. Claims 1 and 12-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Clear support has not been provided for the invention as claimed.

Specifically, it is unclear where support exists for the limitations pertaining to the mixing of reactants within an apparatus, the removal of the resulting mixture from the apparatus, and the introduction of the mixture into a reactor. The examiner has considered the specification and the examples, and the position is taken that the disclosures pertaining to the sequence of mixing and reacting are ambiguous to the point that no clear and definitive process sequence can be ascertained from the specification. It appears that applicants are similarly unclear as to what the disclosed process entails. To support this position, a comparison of applicants' current claims and response and applicants' past response of February 9, 2004 is useful. Currently, the claims require that mixing and reacting occur within separate equipment; however, within the second paragraph of page 7 of the response of February 9, 2004, applicants definitively stated that the process of the claims occurred within a single static mixer. Admittedly, the claims have been amended to now require the use of separate equipment; however, the question remains with

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respect to which set of claims has support. It is by no means clear from pages 8 and 9 of the specification that mixing and reacting are to occur in separate equipment. Page 8 specifies that components (A) and (B) are mixed in a "reactor" and that prior to introduction they are mixed "separately from each other". Page 9 ambiguously indicates that any type of reactor can be used to convert the mixture into TPU. However, it is further stated on page 9 that static mixers are preferably used for polyaddition so that thorough mixing can be obtained (this appears to refer back to the mixing discussed on page 8 and supports the position that a single piece of equipment is used), and it is further stated that twin shaft extruders may be used and that the first part of the extruder can be used to heat up the isocyanate component (again, this supports the disclosure on page 8 and further supports the position that the process occurs in a single piece of equipment since heating, mixing, and reacting are occurring in a single extruder). With respect to the embodiment of claim 1 concerned with the initial use of an extruder and claim 14, it is not seen that any suggestion exists within the specification that an extruder is used as the initial mixer and that a second extruder or reactor is used for polyaddition. Given the ambiguous language of the specification and the contradictory arguments of the applicants, the position is ultimately taken that clear support for the invention as claimed has not been provided and that applicants have failed to provide a clear, concise written description of the invention.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirchmeyer et al. ('252) in view of Rausch et al. ('964).

Kirchmeyer et al. disclose the continuous production of polyurethane elastomers, wherein the reactant components are rapidly mixed within a static mixer prior to reaction within a second static mixer, so as to obtain more uniform mixing and reaction. Applicants' claimed tubular reactor is considered to be met by the disclosed second static mixer.

5. While the primary reference fails to disclose the use of reactant streams having comparable temperatures, the use of comparable temperatures for reactant streams used for the continuous production of thermoplastic polyurethanes was a known and conventional practice at the time of invention. Rausch et al. are concerned with the production of a thermoplastic polyurethane, and the examples of Rausch et al. clearly disclose that the two reactant streams were heated to the same temperature of 140°F (60°C).

6. Therefore, in accordance with the goals, of the primary reference, of obtaining more uniform and homogeneous mixtures, the position is taken that one would have been motivated to introduce the streams for mixing at comparable temperatures (as was done in the secondary reference), so as to obtain a reactant composition having increased uniformity and increased


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efficiency of formulation.

7. Applicants' arguments have been considered; however, they are not deemed persuasive.

The examiner has set forth the requisite motivation to modify the references; contrary to applicants' arguments, the motivation stems from the teachings of the prior art. Furthermore, as has been previously stated, the examiner has considered the examples of the application for showings of unexpected results; however, the examples are not commensurate in scope with the claimed reactant species or conditions.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

  
RUBEN SERGENT  
PRIMARY EXAMINER

R. Sergent

September 13, 2004